

REMARKS

Withdrawal of the Rejection and favorable reconsideration and allowance of the present application for at least the reasons given below are respectfully requested.

Claims 1-7 and 8-20 remain pending. Claim 1 is amended in accordance with the disclosure at page 7, lines 15-16 (noting that an overpressure of 0 to 300 bar is equivalent to a pressure of 1 to 301 bar).

Reconsideration of the rejection applied against claims 1-7, 9-12, 14 and 17-20 as unpatentable under 35 USC §103(a) over *Komatsu et al*, U.S. Patent No. 3,662,015 (*Komatsu*), is respectfully requested for at least the following reasons.

The Examiner, while acknowledging that *Komatsu* does not disclose hydrogenation of phenylacetylene, nevertheless asserts that it would have been obvious to ... have modified the process of *Komatsu* by selectively hydrogenating phenylacetylene ... "because this type of feed falls within the class of feeds disclosed by *Komatsu* as being effectively treated... ."

Applicants respectfully disagree with the Examiner's characterization of, and reliance upon, *Komatsu*.

The only acetylene derivatives which are disclosed by *Komatsu* are butene containing or C₁₋₄-acetylenes, such as dimethyl acetylene, ethyl acetylene, vinyl acetylene (col. 1, lines 50-57; 68-70; col. 5, lines 20-25) although it is also mentioned that the hydrocarbon feed may contain hydrocarbons having up to 16 carbon atoms (col. 3, line 75 to col. 4, line 1). In no case are aromatic acetylene compounds disclosed nor does any part of the disclosure of *Komatsu* lead the practitioner to anything other than linear hydrocarbons.

In fact, the contrary is true. The disclosure at col. 1, lines 58-62 refers to the conventional hydrocarbon catalysts which "promote double bond migration in addition to the desired hydrogenation of the unsaturated bonds." The disclosure at col. 4, lines 38-55 emphasizes that the patentee's process proceeds without causing double bond migration. As may be appreciated, the problem of double bond migration is a problem for linear hydrocarbons, but not for aromatic hydrocarbons such as phenylacetylene.

For this reason alone, the practitioner would not have been motivated to adopt the procedure of *Komatsu* for a phenylacetylene hydrocarbon feed and would not have had a reasonable expectation of success in applying the disclosure of *Komatsu* for any hydrocarbon feed other than linear hydrocarbons and, in particular, C₁₋₄ linear polyunsaturated hydrocarbons.

Accordingly, the rejection of claims 1-7, 9-12, 14 and 17-20 as unpatentably obvious over *Komatsu* is respectfully traversed and should be withdrawn.

Reconsideration and withdrawal of claims 13, 15, and 16, under 35 USC 103(a) over Komatsu, further in view of Barry (US 2,511,453) is respectfully requested for at least the following reasons.

There is nothing in the disclosure of Barry that would have motivated the practitioner to modify the process of Komatsu to carry out selective hydrogenation of phenylacetylene or any hydrocarbon feed other than linear hydrocarbons. The practitioner would, even in view of Barry, view the disclosure of Komatsu as limited to hydrocarbon feeds where double bond migration is to be avoided.

Furthermore, even if *arguendo*, the practitioner would have been motivated to adopt the additional metals of Barry in the process of Komatsu, the practitioner would have, additionally, noted that the additional metals are used in combination with sulfided nickel catalyst and, therefore, especially since Komatsu recognizes the sulfided catalysts (see, e.g., col. 5, lines 2-7), the practitioner would have also used a sulfided catalyst when using such additional metal.

Still further, if the practitioner would have been motivated to modify the process of Komatsu by applying the teachings of additional metal additives as apparently suggested by Barry, the practitioner would also have noted that the process of Barry is carried out at a temperature of between 125 and 350 °C (see, e.g., col. 3, lines 18-20) and, so, would have adopted this temperature range. In this regard, all of the examples of Komatsu are carried out at temperature of 100 °C.

Accordingly, any combination of the disclosures of Komatsu and Barry would not have resulted in the process of any embodiment of the present invention.

Therefore, for at least the foregoing reasons, the rejection of claims 13, 15 and 16 should be withdrawn.

Claims 1-7, 9-12, 14 and 17-20 are rejected under 35 USC 103(a) as allegedly obvious over van der Aalst *et al* (US 5,504,268) (van der Aalst) in view of Komatsu.

For at least the following reasons, this rejection should be withdrawn.

Van der Aalst does not disclose or suggest a process for hydrogenation of phenylacetylene which is carried out at anything other than a pressure in the range of from about 0.001 to about 0.05 bar (see, e.g., col. 1, lines 60-61). Noting the examples and comparative examples of van der Aalst, the practitioner would not have had a reasonable expectation of success if the process of van der Aalst were modified to be carried out at a pressure in excess of about 0.05 bar.

The disclosure of Komatsu has been discussed above. For the reasons previously stated, the practitioner would not have considered the disclosure of hydrogenating linear hydrocarbons as disclosed by Komatsu to be relevant to the hydrogenation of phenylstyrene.

For at least the foregoing reasons, withdrawal of the rejection relying on van der Aalst in view of Komatsu is respectfully requested.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,
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